286 The use of continuous infusions of subcutaneous terbutaline in adult patients with cystic fibrosis

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Introduction: Although a continuous subcutaneous infusion of terbutaline (CSIT) can be useful in treating bronchospasm [1] there are no studies looking at its use in adult CF, where many patients can develop this complication during a pulmonary exacerbation. We frequently use CSIT for this purpose, and wished to assess its tolerability.
Method: We asked 24 patients their views on CSIT following its use during an inpatient stay.
Results: There were 93 prescriptions of CSIT over 16 months, over 70% commenced within 72 h of admission. Median dose was 5 mg/24 h (range 2.5–10); mean duration of therapy was 11 days (2–36). Most patients felt that CSIT was useful (17/24), not uncomfortable (20/24) and helped them to improve more quickly (14/24). Those who had also experienced intravenous aminophylline rated CSIT more effective (10/16) with only 2/16 considering it to cause more side-effects; all patients appreciated the greater mobility afforded by CSIT. Tremor (11/24), palpitations (3/24) and headache (2/24) were the most frequent side-effects but were only considered severe by 2 patients. Adverse effects necessitating dose reduction were uncommon (5/93) and all such cases tolerated the lower dose.
Conclusions: Our findings suggest that CSIT is well tolerated and preferred to intravenous aminophylline by CF patients, with less side-effects and less impact on mobility. We encourage other centres to consider it as an adjunct to therapy.

Reference(s)

[1] Jones GH, Scott S. Continuous infusions of terbutaline in asthma – a review. J Asthma 2011; 48(8): 753–6.

287 Experience with a new totally implantable venous access device

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Background: Totally implantable venous access devices (TIVADs) have revolutionised the delivery of IV therapy in CF, but they have a significant long term complication rate (line infection/obstruction) of up to 54% [1], necessitating port removal and delaying treatment. New TIVAD chamber designs aim to reduce these complications by streamlining outlets and maximising flow, and we wished to assess their efficacy for our patients.
Method: We compared the complication rate using such a new TIVAD design (Vortex LP [Angiodynamics®, Cambridge, UK]) in 20 patients over a 22 month period with that in our existing TIVAD population over the preceding 18 months.
Results: See the table.

Table: Comparison of complication rates

	Infection	Occlusion/Thrombosis	Pneumothorax	Mechanical problem	Complication rate (per port month^{-1})
Old system (76 pts over 18 months)	7	13	1	3	1.75%
New system (20 pts over 22 months)	0	0	1	0	0.23%

Conclusions: The complication rate using this new TIVAD design seems to be less than with previous devices. We encourage other centres to consider the use of Vortex TIVADs which has helped us to further decrease our complication rate.

Reference(s)

[1] Royle TJ, Davies RE, Gannon MX. Totally implantable venous access devices – 20 years' experience of implantation in cystic fibrosis patients. Ann R Coll Surg Engl. 2008 Nov;90(8):679–84

288 CF patients with totally implantable venous access devices (TIVAD): prospective survey of Doppler-US (DUS) central venous thrombosis (CVT) and thrombophilia (TB) assessment

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A TB tendency has been reported in CF patients (P).
Aims: In P with TIVAD
1. To document the prevalence (Pr) and incidence (In) of CVT detected by DUS in a multicenter prospective study.
2. To assess genetic and acquired TB profiles, hypercoagulability (HC) state.
3. To provide recommendations on TB screening when TIVAD is considered.

Patients and Method: P have been selected at TIVAD insertion (V0). A DUS was scheduled 1 and 6 mo later (V1, V2) and at V0 in case of a previous central line. TB and HC were evaluated at V0 and at V1 and V2 for acquired TB and HC.
Results: One hundred P (28 CF centres, median age: 20 y) received a TIVAD, 90 completed the 6 mo study. In the 44 P who had previously a TIVAD, DUS at V0 identified a CVT in 4 P. During the study period, CVT were reported in 2 different P. CVT Pr and In were 6.6% and 2.2%. Pr of TB abnormalities and HC state have reached 17% and 38% and 5 cases combined abnormalities. Among the P with a CVT (4 adults, 2 children), an abnormality was detected in 3 adults; TIVAD has not been removed, anticoagulant therapy (ACT) allowed an uneventful clinical course (17–31 mo).
Discussion and Conclusion: Despite a high In of TB and HC abnormalities, we found an unpredictable low Pr of asymptomatic CVT (6.6%, 0.12/1000 days), hampering statistical analysis. Our data do not support a biological screen at time of TIVAD insertion in terms of cost and benefit but emphasize the relevance of (1) collecting personal data on VT, (2) assessing prospectively DUS in order to select P who may take advantage of a biological screen and possibly of an ACT and (3) the need for further prospective longitudinal cohort assessment.
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289 The use of alteplase in patients' portacaths following transfer from paediatric to the adult unit

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Objective: Paediatric CF patients transferred to our Adult unit, who had a venous implantable access device (portacath) were found to have never bled back or had then stopped, prior to transfer. Our practice is to use alteplase, 2 mg, on patients whose port doesn't bleed back. Alteplase is a plasminogen activator which cleaves plasminogen resulting in the formation of plasmin, which is the enzyme responsible for clot dissolution. We set out to evaluate the effectiveness of using alteplase on portacaths, on patients who were transferred to our care.
Method: Patients with an existing portacath transferred from the Paediatric unit from March 2008 were identified. It was established if their port had bled back on transfer or never bled, if alteplase had been administered following transfer, if the port had bled following and if further doses were necessary: 18 patients were transferred with an existing portacath, 6 bled back on transfer, 2 patients' ports did not bleed, but had not been admitted since transfer, so were excluded, 9 of the 10 patients whose ports did not bleed had alteplase administered, 7 bled back (77.7%), 2 continued not to bleed (22.2%). One of the ports which didn't bleed, had alteplase used as it was very stiff to flush and this problem was resolved. One port needed alteplase insertion on each of the four subsequent admissions and one on each of the three subsequent admissions.
Conclusion: The use of alteplase in portacaths that do not bleed should be given serious consideration in both paediatric and adult areas. The function of being able to withdraw blood from a portacath instead of venepuncture is much more favourable and less traumatic for CF patients.